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Bodyweight-supported treadmill training for retraining gait among chronic stroke survivors: A randomized controlled study.

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Abstract

OBJECTIVE: To evaluate the role of bodyweight-supported treadmill training (BWSTT) for chronic stroke survivors.

DESIGN: Prospective, randomized controlled study.

METHODS: Patients with a first episode of supratentorial arterial stroke of more than 3months' duration were randomly allocated to 3 groups: overground gait training, treadmill training without bodyweight support, and BWSTT (20 sessions, 30min/day, 5days/week for 4weeks). The primary outcome was overground walking speed and endurance and secondary outcome was improvement by the Scandinavian Stroke Scale (SSS) and locomotion by the Functional Ambulation Category (FAC). We analyzed data within groups (pre-training vs post-training and pre-training vs 3-month follow-up) and between groups (at post-training and 3-month follow-up).

RESULTS: We included 45 patients (36 males, mean post-stroke duration 16.51±15.14months); 40 (89.9%) completed training and 34 (75.5%) were followed up at 3months. All primary and secondary outcome measures showed significant improvement ($P<0.05$) in the 3 groups at the end of training, which was sustained at 3-month follow-up (other than walking endurance in group I). Outcomes were better with BWSTT but not significantly ($P>0.05$).

CONCLUSION: BWSTT offers improvement in gait but has no significant advantage over conventional gait-training strategies for chronic stroke survivors.

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KEYWORDS: Bodyweight-support treadmill training; Chronic stroke survivors; Gait training; Stroke rehabilitation

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